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EXAMINER

IRVIN, THOMAS W

ART UNIT	PAPER NUMBER
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3657

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/576,029	Applicant(s) KAMAMOTO ET AL.	
	Examiner THOMAS W. IRVIN	Art Unit 3657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 6-10 and 18-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 6 states " the first pins and the second pins are combined to form two or more types of pairs", this statement appears to be incorrect as the first and second pins appear to be paired with strips (5) and not the other of the first or second pins (see figs. 1, 2, 6, 7).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5, 6-10, and 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "the thickest pin" and "the thinnest pin" in lines 3 and 4. There is insufficient antecedent basis for this limitation in the claim.

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Claim 6 recites the limitation "the other link" in line 10. There is insufficient antecedent basis for this limitation in the claim. Additionally, the examiner notes that -- said -- or -- the -- should be added in line 9 before "plurality of first pins".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5, 11, 12, 15, 16, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Van Rooij et al. (5,728,021).

In Re claims 1, 2, 11, and 21, Van Rooij et al. discloses a power transmission chain entrainable between a first pulley possessing conical sheave (65) surfaces and a second pulley possessing conical sheave surfaces (67), the power transmission chain (31) comprising a plurality of links (33,53) each possessing through-holes (35,37), and a plurality of pins (45,47) inserted through the through-holes for interconnecting the plural links, the power transmission chain being operable to transmit power by way of contact between opposite end faces of the pins and the sheave surfaces of the first and second pulleys, wherein the plurality of pins substantially have the same length in the longitudinal direction (see Fig. 3), and the plurality of pins include plural types of pins (45,47) having different rigidities in the longitudinal direction thereof. A plurality of the plurality of pins having different sectional shapes (see Fig. 4). The examiner notes that

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rigidity is based, in part, on an area, and therefore the differing cross-sectional surface areas of the pins mean that the different pins have different rigidities.

In Re claims 3 and 12, a first group of pins (45) of the plurality of pins (45,47) have substantially the same sectional shape and sectional area, and a second group of pins (47) have a different sectional area than the first group of pins.

In Re claims 5, 15, and 16 the sectional area of a first group of pins (45) appears to be between 1.1 and 2 times the sectional area of a second group of pins (47) (see Fig. 4).

Claims 1-3, 5, 11, 12, 15, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Anpo (JP 01-169149).

In Re claims 1, 2, 11, and 21, Anpo discloses a power transmission chain (50) entrainable between a first pulley (52) and a second pulley (54), the power transmission chain comprising a plurality of links (10a,10b) each possessing through-holes (11), and a plurality of pins (12a,12b,12c) inserted through the through-holes for interconnecting the plural links, the power transmission chain being operable to transmit power by way of contact between opposite end faces of the pins and the sheave surfaces of the first and second pulleys, wherein the plurality of pins substantially have the same length in the longitudinal direction (see Fig. 6), and the plurality of pins include plural types of pins (see figs. 8-10) having different rigidities in the longitudinal direction thereof. A plurality of the plurality of pins having different sectional shapes (see Figs. 8-10). The examiner notes that rigidity is based, in part, on an area, and therefore the differing

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cross-sectional surface areas of the pins mean that the different pins have different rigidities.

In Re claims 3 and 12, a first group of pins (12a) of the plurality of pins have substantially the same sectional shape and sectional area, and a second group of pins (12b) have a different sectional area than the first group of pins, and a third group of pins (12c) have even a different sectional area.

In Re claims 5, 15, and 16, the sectional area of a group of pins (12a,12b,12c) appears to be between 1.1 and 2 times the sectional area of the other groups of pins (see Figs. 8-10).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 13, 14, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anpo (JP 01-169149) as applied to claims 1 and 2 above, and further in view of Zimmer (4,718,880).

In Re claims 4, 13, and 14, Anpo fail to teach links having different pitches.

Zimmer teaches, with reference to Fig. 9, arranging links (68a,70a,72a), with differing pitches, randomly in a chain (see col. 1 and 2, lines 60-15). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have

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modified the chain of Anpo, to include links of differing pitches, as taught by Zimmer, to lessen the noise of the chain against the sheaves, without affecting the tensional strength of the chain.

In Re claim 17, the sectional area of a first group of pins (12a) appears to be between 1.1 and 2 times the sectional area of a second group of pins (47) (see Fig. 4 of '021).

Claims 4, 13, 14, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Rooij et al. (5,728,021) as applied to claims 1 and 2 above, and further in view of Zimmer (4,718,880).

In Re claims 4, 13, and 14, Van Rooij et al. further teach a first group of pins (45) which have a different width than a second group of pins (47) (see Fig. 4). Van Rooij et al. fail to teach links having different pitches.

Zimmer teaches, with reference to Fig. 9, arranging links (68a,70a,72a), with differing pitches, randomly in a chain (see col. 1 and 2, lines 60-15). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the chain of Van Rooij et al., to include links of differing pitches, as taught by Zimmer, to lessen the noise of the chain against the sheaves, without affecting the tensional strength of the chain.

In Re claim 17, a first group of pins (12a) of the plurality of pins have substantially the same sectional shape and sectional area, and a second group of pins

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(12b) have a different sectional area than the first group of pins, and a third group of pins (12c) have even a different sectional area.

Claims 6-10 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Rooij et al. (5,728,021) in view of Anpo (JP 01-169149).

In Re claims 6, 8, and 18, Van Rooij et al. disclose a power transmission chain (31) entrainable between a first and second pulley possessing conical sheave surfaces (see Fig. 5) and operable to transmit power by way of contact between opposite end faces of plural chain friction transmission members (45) and the sheave surfaces (65,67) of the first and second pulleys, the chain friction transmission members arranged along a chain longitudinal direction at predetermined space intervals, the chain comprising a plurality of links (33,53) each possessing first and second through-holes (35,37) arranged in the chain longitudinal direction, and a plurality of pins (45), each of the plurality of pins penetrates the first through-hole of one link and the second through-hole of another other link thereby interconnecting the links, adjoining in a chain widthwise direction, in a manner to provide bending in the chain longitudinal direction, wherein the pins are fixed in the first through-hole of the one link and movably fitted in the second through-hole of the other link, and also movably fitted in the first through-hole of the one link and fixed in the second through-hole of the other link, so as to be brought into relative movement in rolling contact thereby permitting the bending of the chain. The pins include an involute of a circle (see col. 2, lines 15-18, and col. 5, lines

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37-57). Van Rooij et al. fail to disclose plural types of friction transmission members, pins.

Anpo teaches making a power transmission chain (50) with several types of pins (12a,12b,12c) randomly installed throughout the chain. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the pins of Van Rooij et al. to have included several different types of pins, as taught by Anpo, to further reduce and randomize the chordal action caused by the contact between the pins and strips of the power transmission chain. The examiner notes that rigidity is based, in part, on an area, and therefore the differing cross-sectional surface areas of the pins in the chain, as modified, mean that the different pins have different rigidities.

In Re claim 7, see Fig. 3 of Van Rooij et al.

In Re claims 9, 19, and 20, see Fig. 5 of Van Rooij et al.

Response to Arguments

Applicant's arguments, see Remarks, filed 26 August 2008, with respect to the rejection(s) of claim(s) 6 under 35 U.S.C. 102(b) as being anticipated by Van Rooij et al. (5,728,021) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Van Rooij et al. (5,728,021) and Anpo (JP 01-169149).

Applicant's arguments filed 26 August 2008 regarding claims 1 and 2 have been fully considered but they are not persuasive.

In Response to applicant's arguments regarding the length of the pins of Van Rooij et al., the examiner points out that the claims merely limit the pins to being "substantially" the same length, and not the same length. Examiner also notes that the claims state "operable to transmit power by way of contact between... the pins and the sheave surfaces" which does not mean that the pins have to contact the sheave surfaces.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THOMAS W. IRVIN whose telephone number is (571)270-3095. The examiner can normally be reached on Mon-Fri 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on (571) 272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas W. Irvin/
Examiner, Art Unit 3657

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